

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Previously Presented) A wireless station that communicates with at least one other wireless station in a local area network (LAN), comprising:

a media access control (MAC) device that controls transitions between an active mode and a low power mode;

a radio frequency (RF) transceiver that communicates with said MAC device and that, after said transition to said active mode, transmits data during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

a baseband processor (BBP) that performs radio frequency mixing and that communicates with said MAC device and said RF transceiver and that includes a first phase locked loop (PLL) that generates a first clock signal for said BBP during said active mode; and

a crystal oscillator device that is selectively controlled by said MAC and that outputs a timing signal to said first PLL during said active mode, wherein said RF transceiver includes a second PLL that receives said timing signal from said crystal oscillator during said active mode and that generates a second clock signal for said RF transceiver.

2. (Original) The wireless LAN station of Claim 1 wherein said RF transceiver receives data from other wireless LAN stations in said LAN during said active mode and transitions to said low power mode after receiving said data from said other wireless LAN stations.

3. (Original) The wireless LAN station of Claim 1 wherein said MAC device transitions said wireless LAN station to said active mode prior to a timing beacon and transitions said wireless LAN station to said low power mode prior to a subsequent beacon.

4. (Original) The wireless LAN station of Claim 1 wherein after said transition to said active mode, said MAC device updates network time.

5. (Original) The wireless LAN station of Claim 4 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

6. (Original) The wireless LAN station of Claim 5 wherein after said fixed delay and a backoff period, said wireless LAN station transmits a beacon if said wireless LAN station has not already received a beacon.

7. (Original) The wireless LAN station of Claim 6 wherein said wireless LAN station updates network time to match a time of said received beacon.

8. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN station transmits at least one frame following a short interframe space during said assigned time slot.

9. (Original) The wireless LAN station of Claim 1 wherein said assigned time slot occurs at least one of after a prior time slot expires, after a wireless LAN station with said prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

10. (Original) The wireless LAN station of Claim 1 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless LAN stations transmits data and before said wireless LAN stations transition to said low power mode.

11. (Original) The wireless LAN station of Claim 1 further comprising:
a first voltage regulator that regulates supply voltage during said active mode and that is powered down during said low power mode; and
a second voltage regulator that dissipates less power than said first voltage regulator and that regulates supply voltage during said low power mode,
wherein said MAC device selects said first voltage regulator during said active mode and said second voltage regulator during said low power mode.

12. (Cancelled)

13. (Previously Presented) The wireless LAN station of Claim 1 further comprising a first oscillator that generates a third clock signal during said low power mode, wherein said first oscillator dissipates less power than said crystal oscillator.

14. (Previously Presented) The wireless LAN station of Claim 11 wherein when said MAC device initiates said low power mode, at least one of said first voltage regulator, said RF transceiver, said first PLL, said second PLL and said crystal oscillator is shut down.

15. (Original) The wireless LAN station of Claim 13 wherein said MAC device includes a counter and wherein when said MAC device initiates said low power mode, said second voltage regulator powers said first oscillator and said counter, and wherein when said counter reaches a predetermined count, said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver, said first PLL and said second PLL.

16. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN station is associated with a host that runs a multiplayer gaming application.

17. (Original) The wireless LAN station of Claim 13 further comprising a processor that communicates with said crystal oscillator and that calibrates said first oscillator using said timing signal from said crystal oscillator.

18. (Previously Presented) The wireless LAN station of Claim 11 wherein at least two of said BBP, said first voltage regulator, said second voltage regulator, said RF transceiver, said MAC device, and said first PLL are implemented by a system on chip (SOC).

19. (Currently Amended) The wireless LAN station of Claim 1 wherein said wireless LAN station is otherwise compliant with at least one version of at least one of IEEE sections 802.11, 802.11(a), 802.11(b), and 802.11(g) that was in effect prior to and including September 19, 2003.

20. (Original) The wireless LAN station of Claim 1 wherein said LAN is an ad-hoc network.

21. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN stations are mobile stations in an ad-hoc network.

22.-36. (Cancelled)

37. (Previously Presented) A wireless station that communicates with at least one other station in a local area network (LAN), comprising:

media access control (MAC) means for controlling transitions between an active mode and a low power mode;

radio frequency (RF) transceiver means that communicates with said MAC means for transmitting data after said transition to said active mode during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

baseband processing (BBP) means for performing radio frequency mixing and that communicates with said MAC means and said RF transceiver means;

first phase locked loop (PLL) means for generating a first clock signal for said BBP means during said active mode; and

crystal oscillating means for generating a timing signal that is output to said first PLL means during said active mode, wherein said crystal oscillating means is selectively controlled by said MAC means,

wherein said RF transceiver means communicates with said BBP means and includes second PLL means for receiving said timing signal from said crystal oscillating means during said active mode and for generating a second clock signal for said RF transceiver means.

38. (Original) The wireless LAN station of Claim 37 wherein said RF transceiver means receives data from said other wireless LAN stations in said LAN

during said active mode and transitions to said low power mode after receiving said data from said other wireless LAN stations.

39. (Original) The wireless LAN station of Claim 37 wherein said MAC means transitions said wireless LAN station to said active mode prior to a timing beacon and transitions said wireless LAN station to said low power mode prior to a subsequent beacon.

40. (Original) The wireless LAN station of Claim 37 wherein after said transition to said active mode, said MAC means updates network time.

41. (Original) The wireless LAN station of Claim 40 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

42. (Original) The wireless station of Claim 41 wherein after said fixed delay and a backoff period, said wireless LAN station transmits a beacon if said wireless LAN station has not already received a beacon.

43. (Original) The wireless LAN station of Claim 42 wherein said wireless LAN station updates network time to match a time of said received beacon.

44. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN station transmits at least one frame following a short interframe space during said assigned time slot.

45. (Original) The wireless LAN station of Claim 37 wherein said assigned time slot occurs at least one of after a prior time slot expires, after a wireless LAN station with said prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

46. (Original) The wireless LAN station of Claim 37 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless LAN stations transmits data and before said wireless LAN stations transition to said low power mode.

47. (Original) The wireless LAN station of Claim 37 further comprising:
first voltage regulating means for regulating supply voltage during said active mode and for powering down during said low power mode; and
second voltage regulating means, which dissipates less power than said first voltage regulating means, for regulating supply voltage during said low power mode,

wherein said MAC means selects said first voltage regulating means during said active mode and said second voltage regulating means during said low power mode.

48. (Cancelled)

49. (Previously Presented) The wireless LAN station of Claim 37 further comprising first oscillating means for generating a third clock signal during said low power mode, wherein said first oscillating means dissipates less power than said crystal oscillating means.

50. (Previously Presented) The wireless LAN station of Claim 47 wherein when said MAC initiates said low power mode, at least one of said first voltage regulating means, said RF transceiver means, said first PLL means, said second PLL means and said crystal oscillating means is shut down.

51. (Original) The wireless LAN station of Claim 49 wherein said MAC means includes counting means for counting and wherein when said MAC means initiates said low power mode, said second voltage regulating means powers said first oscillating means and said counting means, and wherein when said counting means reaches a predetermined count, said MAC means powers up at least two of said crystal oscillating means, said first voltage regulating means, said RF transceiver means, said first PLL means and said second PLL means.

52. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN station is associated with a host that runs a multiplayer gaming application.

53. (Original) The wireless LAN station of Claim 49 further comprising baseband processing (BBP) means for calibrating said first oscillating means using said timing signal from said crystal oscillating means.

54. (Previously Presented) The wireless LAN station of Claim 47 wherein at least two of said BBP means, said first voltage regulating means, said second voltage regulating means, said RF transceiver means, said MAC means, and said first PLL means are implemented by a system on chip (SOC).

55. (Currently Amended) The wireless LAN station of Claim 37 wherein said wireless LAN stations are otherwise compliant with at least one version of IEEE sections 802.11, 802.11(a), 802.11(b), and 802.11(g) that was in effect prior to and including September 19, 2003.

56. (Original) The wireless LAN station of Claim 37 wherein said LAN is an ad-hoc network.

57. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN stations are mobile stations in an ad-hoc network.

58-99. (Cancelled)

100. (Original) The wireless LAN station of Claim 13 wherein said MAC device calibrates said first oscillator using said timing signal from said crystal oscillator.

101. (Original) The wireless LAN station of Claim 49 wherein said MAC means calibrates said first oscillating means using said timing signal from said crystal oscillating means.

102-121. (Cancelled)